

Chapter 6

Sustainment Planning

Sustainment planning for smoke use in tactical operations must focus on the sustainment imperatives: anticipation, integration, continuity, responsiveness, and improvisation. There are several critical factors planners must consider to sustain smoke support in any given operation:

- Number and types of smoke delivery systems and the quantity of available resources.
- The commander's priorities for support.
- consumption factors of the delivery system and large-area smoke assets for the type of operation you are planning.
- Critical smoke delivery systems, whose continuous operation is crucial to the battle's success.
- Major tactical contingencies such as exploitation, pursuit, and withdrawal.
- Real estate management (for example, the location of delivery systems and combat service support [CSS] assets). This involves resolving conflicts in unit/base positions of several units in the same area or sector.

Commanders and their planners must plan to sustain all smoke delivery means that are in their tactical plan. Planners must consider the following:

- Plan for continuous support.
- Forward positioning of essential CSS, such as ammunition and petroleum, oil, and lubricants (POL). Execute this at night if pos-

sible. Artillery and mortar basic loads of smoke ammunition are limited. If your plan calls for sustained projected smoke, you may need to pre-position ammunition forward to sustain the operation.

You may also want to pre-position smoke pots or WP main gun rounds.

- Use preplanned or preconfigured push packages (LOGPAC) of essential items. For missions where smoke requirements exceed existing assets, the commander should consider tailoring the LOGPAC to obtain the required items of ammunition or fuel.

- Plan for rapid resupply. If pre-positioning is not possible, plan to rapidly resupply artillery and mortar units. Configure ammunition in the ammunition supply point (ASP) for rapid sling load or truck transport to user units. Coordinate with the division or corps support command for dedicated transportation assets for a specific period of time to support the operation.

- Upload as much materiel as possible on unit transportation assets. Use existing assets to carry specific mission needs, and down load items that can be brought forward later.

- Plan real estate management. Ensure the pre-positioned stocks and the terrain around these stocks are earmarked for the user unit. The division support command (DISCOM), corps support command (COSCOM), or area support group (ASG) is the focal point for resolving conflicts in unit/base positions.

- Plan direct delivery from supply to user. When you expect very high rates of ammunition or POL consumption, coordinate for direct delivery from the COSCOM CSS asset to the user unit. This requires intensive coordination to ensure transportation assets are in place at the critical time, as well as coordination for delivery locations.

Chemical companies, smoke generator companies, and platoons in particular do not have sufficient organic logistics assets to sustain combat operations. Because of this, chemical units heavily rely upon the supported unit for CSS. When organized under a chemical battalion or brigade, the parent headquarters acts as an intermediary between the chemical company and the division or corps support command for sustainment support.

Both the chemical unit and the supported unit conduct planning to sustain large-area smoke. Planning for smoke operations must ensure the smoke element has the following:

- Maintenance, supply, and recovery support (fixing and supplying).
- Transportation assets available (transporting).
- Tactical resupply of Class III (for example, fog oil, packaged POL, and MOGAS) (fueling).
- Sufficient personnel (manning).
- Fire support, to include tactical resupply of Class V, and security (arming and protecting).

Maintenance, Supplies, and Logistics

Supporting Units

The smoke unit commander specifies the items for inclusion into a "push" package. The CSS unit specified in the plan will configure supplies for rapid distribution to the smoke unit. Normally, support to smoke units is on an area basis. When providing this support, support units use varying combinations of unit distribution such as long-range patrol (LRP) and supply point distribution procedures.

Unit distribution is the preferred method for resupplying smoke units. The supporting unit delivers supplies to the smoke unit's area using preplanned or dedicated transportation assets. The supporting unit generally arranges this transportation, although the transportation assets may be dedicated to resupplying the smoke unit for a particular mission only. The supporting unit should plan for throughput whenever possible.

An alternate means of resupply is supply point distribution. The supporting unit issues supplies from a supply point to the smoke unit. The smoke unit uses its own limited transportation assets to move the supplies to its area of operations.

When determining the type of distribution to be used to support smoke units, logistics planners at all levels should consider—

- Availability of personnel and equipment to deliver and pick up supplies.
- Missions of the supported forces.
- Adequacy of road networks in the area of operations.
- Priorities for use of the roads.
- Anticipated distances between supporting and supported forces.
- Locations of the supported forces.
- Threat to road and rail networks.

Basic Load

Basic load is the amount of equipment and supplies required by a unit to sustain itself until resupply

can be effected. The basic load is approved by the commander. The basic load is not a fixed quantity; it may be altered as situations dictate. For example, a smoke unit conducting a prolonged smoke operation may have its basic load of smoke pots increased for that particular operation.

One method of easing the resupply requirements of smoke units is tailoring of the basic loads. Extended smoke operations away from the main force can be given larger or different basic loads of fuel, parts, or other necessary supplies. Use the consumption tables in Appendix E as a guide for preparing unit basic loads.

Fog Oil Resupply

Fog oil is a packaged POL product arriving in 55-gallon drums. Support units can bulk fog oil by transferring the fog oil from the 55-gallon drums to fuel pods or tank and pump units. The fog oil used in smoke operations comes through the corps and division support areas. It may be delivered as far forward as the brigade support area by the supporting CSS unit. From here the smoke unit's fuel supply elements pick up the fog oil. Based on the type and duration of the smoke mission, the fuel supply element either establishes a forward fuel supply point or keeps stocks uploaded on organic vehicles. For rear area missions the smoke-fuel supply point may be supported from existing Class III or other supply activities.

There are two methods for fog oil resupply on-line resupply and off-line resupply.

On-line resupply. Stationary smoke points are resupplied on line during a smoke mission. This requires the fog oil and MOGAS resupply squad to move to each point as needed. The resupply squad or section will move tank and pump units (TPUs) to the line,

Smoke generators are very limited in number on the battlefield. Smoke generators are also resource-intensive items of equipment. Chemical brigades and battalions do not have a support platoon to manage, pick up, and deliver supplies. Chemical units, and smoke units in particular, are very dependent upon the supporting CSS structure to configure and deliver "push" packages of supplies. Appendix E outlines smoke sustainment planning guidance.

It is essential that commanders and planners consider logistical support for smoke units in the overall tactical plan for an operation. The plan must specify—

- Support relationship between the supported unit and the smoke unit.
- Which activities (TAACOM, COSCOM, ASG, support group, DSA, BSA, or field trains) provide what type(s) of support for the smoke unit:

- Class I, II, IV, VI, and VII.
- Class III package (fog oil and other packaged POL).
- Class III bulk (MOGAS, diesel).
- Class V (small arms, mines, grenades, and explosives).
- Class VIII and general medical support.

- Class IX intermediate level maintenance support, less smoke generator specific parts.

- Consumption rates for the specified mission such as amount of fog oil and other POL needed to sustain smoke operations.

- "Push" packages to support committed units (for example, delivery times and locations, quantities, and frequency).

- Transportation support:
 - Availability of transportation assets.

- Preplanned deliveries to provide the "push" package.

- Priorities for support of units or areas.

drop the drums of fog oil at the smoke point, or pre-position drums at a follow-on smoke point. This increases the vulnerability of the

resupply squad or section and the smoke point.

Off-line resupply. Mobile units are resupplied by rotating individual systems through a fuel resupply point

1 to 2 kilometers to the rear of the smoke line. You can also resupply stationary units that are displacing in this manner.

Fire Support and Security

When planning for the use of smoke in support of combat operations, it is essential commanders and operational planners recognize the vulnerability of smoke units. Smoke generator units conducting smoke operations leave a very recognizable signature on the battlefield. Smoke by its very essence attracts attention. An observer only needs to follow the smoke streamer to its source to target the individual smoke-producing device. Smoke generator operators and smoke unit commanders are acutely aware of this and utilize every measure available to reduce this signature.

Some of these steps include -

- Making maximum use of natural cover and concealment.
- Using reverse slope positioning.
- Using self-protecting smoke (for example, smoke pots upwind of generator positions).
- Continuously moving mobile systems within designated areas to minimize effective targeting.
- Staggering positions of generators.
- Digging in or hardening.
- Making smoke from flanks and stand-off positions whenever possible.

While the above actions will enhance the smoke unit's survivability, proper employment by the supported unit is essential. As an example, mechanized smoke systems provide some small-arms protection

for the crew and are less vulnerable to indirect fire than wheeled smoke systems.

Lessons learned at the NTC consistently demonstrate that mechanized smoke systems suffer high-loss rates when they are among the lead elements of armored assaults. While improper employment at the NTC serves as a valuable training aid for commanders, the same mistake in combat will result in the loss of a significant and scarce combat multiplier.

Reconstitution of battlefield losses will be slow. They may not occur at all based on the availability and priority of distribution for such a limited asset. In a rapidly moving armor assault, the commander may wish to plan for additional smoke support from his indirect fire artillery using WP or HC smoke projectiles integrated into preparatory fire. This fire placed on or in front of the objective may accomplish the desired result and not expose mechanized systems to unnecessary risk.

Fire Support

Supporting smoke assets coordinate with the supported unit for fire support.

Fire support is based on artillery availability and the coordination that takes place among the smoke unit, chemical staff office, S3/G3,

and FSO. Integrate the smoke unit fire plan with the supported unit fire plan. Fire support planning must consider—

- Priorities of fire support.
- Availability of smoke rounds (mortar and artillery).
- Named areas of interest (NAI) and target areas of interest (TAI) of the maneuver unit.
- Coordination with fire support assets for the primary, alternate, and supplemental smoke operations areas or points.
- On-call targets (nominated by the smoke unit).

Security

Plan for the security for smoke units based upon availability of the supported unit's assets and priorities. When security forces are provided for smoke assets, coordination measures include -

- Determining needed duration of security support.
- Determining size of security element.
- Locating overwatch positions for security elements.
- Determining smoke and security element leaders understand the commander's concept, fire support plan, and communication procedures, and are aware of smoke tactical resupply locations.

Smoke support occurs in many types of terrain under different weather conditions. Operations may occur in NBC-contaminated areas. Leaders balance mission requirements against protection require-

ments. They consider visibility constraints and heavy work rates during smoke missions. Specifically, it is difficult to see in smoke. It is more difficult to see in smoke when in full individual protective equipment

(IPE). Heat buildup becomes critical to the welfare of the soldier. This is especially true when the operator of the M157 smoke generator set is "buttoned-up" inside the M1059 mechanized smoke gener-

ator in full IPE in support of a mechanized or armored division.

Smoke generator crews may be difficult to replace in future conflicts. Therefore, you must focus on maintaining the available force at peak combat effectiveness. Leadership is the key to maintaining the strength and spirit of the fighting force. Leaders must assemble, transport,

and distribute their units as the commander requires in his task organization, yet conserve their fighting strength. Leaders must give special consideration to—

- Health services.
- Administrative support.
- Morale and welfare activities.
- Discipline.
- Stress management.

- Replacement planning.

Limited visibility has a significant impact on sustainment operations. It increases the time and decreases sustainment responsiveness. Support and smoke units should thoroughly rehearse sustainment activities prior to execution of the plan.